



MICROGRAPHIA.

of their smallness, 3. The difficulty of finding the desired point, and placing it so, as to reflect the light conveniently for the Inquiry, L. ones being able to view it but with one eye at once, they will appear small obstructions, nor are they easily remov'd without many contrivances. But to proceed, I could not find that water, or some deeply tinctured liquors would in small ones rise so high as one would expect; and the highest I have found it yet rise in any of the pipes I have try'd, was 21 inches above the level of the water in the vessel: for though I found that in the small pipes it would nimbly enter at first, and run about 7 inches upwards; yet I found it then to move upwards so slow, that I have not yet had the patience to observe it above that height of 21 inches (and that was in a pretty large Pipe, in comparison of those formerly mentioned; for I could observe the progress of a very deep tinctured liquor in it with my naked eye, without much trouble; whereas in the other pipes were so very small, that unless in a convenient posture to the light, I could not perceive them :) But 'tis very probable, that a great patience and assiduity may discover the liquors to rise, at least to rise suspended, at heights that I should be loath now even to guess at, at least there be any proportion kept between the height of the ascent of the liquor, and the bigness of the holes of the pipes.

An Attempt for the Explication of this Experiment.

My Conjecture, That the unequal height of the surfaces of the water proceeded from the greater pressure made upon the water by the air without the Pipes A B C, then by that within them; I shall endeavour to confirm from the truth of the two following Propositions:

The first of which is, That an unequal pressure of the incumbent air will cause an unequal height in the water's surfaces.

And the second is, That in this experiment there is such an unequal pressure.

That the first is true, the following Experiment will evince. For if you take any Vessel so contrived, as that you can at pleasure either increase or diminish the pressure of the Air upon this or that part of the superficies of the water, the equality of the height of those parts will presently be lost; and that part of the superficies that sustains the greater pressure, will be inferior to that which undergoes the less. A fit Vessel for this purpose, will be an inverted Glass syphon, such an one as is described in the Sixth Figure. For if into it you put Water enough to fill it high as A B, and gently blow in at D, you shall depress the Superficies B, and thereby raise the opposite Superficies A to a considerable height, by gently sucking you may produce clean contrary effects.

Next, That there is such an unequal pressure, I shall prove from the fact, That there is a much greater incongruity of Air to Glass, and some other Bodies, than there is of Water to the same.